

Home Computing WEEKLY

May 10-16, 1983 No. 10

NEW

COMPUTER CHAIN STORES RAPPED

Sales staff are getting increasingly involved in computers. It's becoming a熑niversal enemy of consumers.

And consumers are right. Michael Redgrave, manager of the Computer Trade Showroom, has now withdrawn from it completely.

The last straw was the BBC Micro and Sinclair units he'd seen, which of course were other chains.

All recent estimates would show more than possible.

They can't get away with their computing today without their computing training centres.

Mr Redgrave said: "I now wish I could run 1,000 franchises myself, but BBC Spectrum won't let me."

The last straw came when he'd been approached by a

business called Robotex, which will be a computer chain.

And they said I would get French and German writing courses.

"I told the chairman, I understand correctly, 'Robotex' was presenting proposals earlier and it would work on a VIC-20 basis on expensive memory pack, etc. He probably applied the VIC-20 expertise because he had more money than the VIC-20 can hold."

He had about 40 new places and when I got out of there, I took along three boxes."

However, some dealerships welcome the planned franchise service, said Mr. J. H. Lewis of Microtel, where he added: "If the VIC-20 would help his daughter's education, he was allowed to choose the place with the price reduced. A parent reference in Gary's book also looks very helpful."

Mr Redgrave said: "The problem seems to be that the industry has given up fast that technology has not been able to keep up."

More Mr Redgrave's views on consumer hardware can be found on page 10.

INSIDE

BBC Micro speaks:
first review

Programs
for: ZX81,
Spectrum,
Atari

Best seller
charts for:
Spectrum,
VIC, ZX81,
Dragon

Software
reviews for:
Spectrum,
VIC, Dragon,
BBC, ZX81

It's not so easy, says TV's computer man

Home computers are not as easy to use as the hobbyists claim, says the producer of the BBC television series *Computer Games*.

In fact, he says, "Most are really bad to use."

The QWERTY keyboard isn't user friendly for a man used to learning a piano keyboard. (Continued on page 11)



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A second country-level variable is Peace with a Democracy CIVPOL, measured as the percentage of respondents who reported that they were satisfied with their country's democracy.



Finch

Another consideration goes back to your compensation and protection for losses. From the 1970s to the early 1990s, the U.S. government took a number of measures. One process of the agency took place in the mid-1980s of the agency was to require the agency to set aside 10 percent of the budget for research.



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Journal of Oral Rehabilitation 2003 30: 103–109

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Continued from front page



Nigel Blackhurst — leaving down-member companies — which includes software houses and dealers — and from them I was very surprised about the complaints and said "It's not unusual much damage to the innocent that would eventually do major harm to the computer trade."

"The high street chains are going to have to make a deliberate effort to make sure there are well trained specialists available."

He would like the associations to offer solo training along with a training pack for solo staff.

A spokesman for W.H. Smith said: "What we have just told us a particularly disturbing."

"We have specialist courses at our training centre in Milton Hill, Oxfordshire. And staff don't go out there, but everyone there is a new graduate."

"They are like computer laboratories — everyone has a computer and there is an expert with them."

"They have to go on, the course before they are let loose on the public. We take these things very seriously."

The one thing is that the computer user schools Gits working in different parts of the store have been asked to go on the course. Overwinter said: "At the moment one of our computer experts has left here working on computers."

So in the year 200 people had taken courses and another 200 would take them in the next two-three months. And staff

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FREE CATALOGUE

of the best software

ZX81. Under the heading "more software" had a computer hardware company

The spokesman said: "I caught my hand on my heart and say we offer the best training, to my knowledge."

A local computer user company's training courses were run by an outside firm. And the highly technical questions, this user said, a lot of telephone numbers to call for Commodore, Sinclair, Dragon and other computers when an expert was unfortunately unavailable.

He said: "If anyone has more free discussions or complaints than we would wish there is no place to turn or write to us in Nottingham."

* The John Menzies chain of stores has just joined the Computer Trade Association.

Computer Trade Association, 109 Margaret Street, Castlefield, Lancs M2 2JF.

VIC-20 package deal goes £110

New VIC-20 package offering £110, announced by Commodore as part of its promotion

Designed for two-type buyers, limited edition based sets, at £120.99 from June 1, contain VIC-20 computer disk BASIC tutorial and four games. Usual price, if sold separately, £249.99.

Unit price VIC-20 is £99.99, although dealers not allowed to split packages. Spokesman said promotion, planned for several months, includes £10m advert campaign.

Don't forget!

Closing date for the Audioscene competition is last week's Home Computing Weekly in first part on May 20.

Artistic Editor: Paul Lippard
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Technology Limited

Continued from front page

to type. And as far as programming in BASIC concerned, what has that been like for you?"

"There is no transparency of programs, except for the most trivial."

The producer of the series said to me, "Mac, do you ever wake up at night and think of people who find a computer in their study room, and say to themselves, What did I do with this?"

People had to be aware of the type surrounding computers — "It's never a better than the last one."

He compared the advancements available for language games and said, "Everyone knows it's extremely hard — except for a very few people — to learn a language and it takes a hell of a long time."

"I would compare this with computer programming. You don't mean that you shouldn't try a few words of French or Italian and enjoy your holiday more."

"I suspect that many people buy computers and don't do much with them. They try learning to program and are overwhelmed or just play a few games. Gradually the shell wears off and they end up in a shell."

"I suspect that happens to a large proportion of computers."

Mr McNaught-Davis was speaking after addressing the London branch of the British Computer Society.

Commenting on the term "easy to use," he said, "You should translate this as very hard to use, but easier to use than the currently tried and tested ways that preceded so-called friendly ones, not more looking at."

He compared most microsystems with the BBC. "If you stand at Comus and read in the end it's bloody hard to work out the code unless someone explains it to you."

One problem, he said afterwards, which led to dissatisfaction with the BBC was, "Most of the software can only tell the hardware and not the software."

"To some extent it's like buying a car. You don't say, 'What colour should it be?' He would say, 'It's nothing to do with me, cook, buy a motor, go and visit your source.' It's the chicken and egg again."

But didn't the TV series make computing seem easy?

Mr McNaught-Davis said:

"Only in the sense that every TV series is realising — people are not always well-educated, well-spoken and clean shaven.

"Everybody makes mistakes. Getting it wrong is normal. It is natural to have road accidents and there's nothing you can do to stop them, except make people wear seat belts and make the cars as safe as possible."

"It's important to understand what computers can do and how they do it. The best way is to buy a book and read it."

Mr McNaught-Davis said he was looking forward to the first BBC computer programme he is to present on October 3: "The whole object is that if anything goes wrong you will not be going wrong."

Mr McNaught-Davis is managing director of Corvus, a local computer service company specialising in financial software for his company.

He stressed that he believes — from the co-managing director of the largest corporation — computers were becoming "absolutely essential."

However, he said only 10 per cent of his company's programs actually solved problems. The remaining 90 per cent was used to interface with the outside world.

Turning out turtle

Samuel Schuster says on newly-launched version of the LOGO-language for the BBC B480 series, costing £1.59, includes turtle graphics, procedures with parameters, recursion, simulated randomness and parallel programming.

Samuel Schuster, 46, Raywood Road, Sheffield S10 7EL.

Race by post

Microsoft, a new mail order software house, has produced its first program — Cross Fit for the TI 99-4A, at £3.95.

Aberconwy, 21 Montebello Road, Cheltenham, Gloucestershire GL5 2EP.

Let us know

If you are in the microcomputer business — software or hardware — let us hear your news and products for review. Contact Paul Lafford, Home Computing Weekly, 145 Charing Cross Road, London WC1H 9EE. Phone 01-837 1021.

What's new From across the Atlantic

There's a new book on writing for the BBC B480 series, called *How to Write BBC B480 Programs*, by Alan D. Smith. It contains 100 programs, each with a brief description of what they do, key features and how to use them. It also covers the BBC B480 keyboard and memory organisation, and simple assembly language. The book costs £12.95, plus £1.50 p&p.

The book was written by Alan D. Smith, a BBC computer systems engineer, and is aimed at anyone interested in writing programs for the BBC B480.

It is designed to help people who have never programmed before, and to help those who already know how to write programs for the BBC B480 to learn how to write programs for the BBC B480.

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Trouble over Sinclair ads

Sinclair Research has run into trouble with advertising watchdogs for claims that its BBC Spectrum is more powerful than the BBC model.

The Advertising Standards Authority upheld a three-part complaint about exaggerated press ad representations from a Co Durham reader.

A limited number of pictures of the BBC model Amstrad and the Spectrum, saying the Spectrum "has just 14 chips to provide more power and more user-programmable RAM".

The authority considered the comparison unfair since the recall rate of the Spectrum had been measured at the expense of many facilities and expenses previously available on the BBC computer.

An independent committee was brought in by the authority to help judge the claim that the Spectrum had more power.

And the ASA decided that, although maximum RAM on the Spectrum was 48K and on the BBC it was 22K, the range and sophistication of commands and speed should be taken into account and the BBC model scored best.

On the final point, the advertisers pointed out to the ASA that in high-resolution mode the Spectrum had 92% of RAM available in the user area and this in the same mode the BBC machine had 98% which was better.

But the authority said the two manufacturers worked with equal care in their models and that in high-resolution mode each had 11.25K of RAM available.

The ASA concluded that the

comparison confirmed an unfair advantage on the Spectrum and noted that there was no plan to repeat the claim.

Two more complaints about advertisements for Sinclair products have been upheld.

- Three people said that, although aleaflet presented delivery within 28 days, they had difficulty getting software. The ASA asked for assurances that "guaranteed" offers would be made to stop this happening again.

- Microdrive storage devices were advertised as "available later this year, for example 400K". But two readers said although these advertisements appeared throughout 1982 they had not been able to get them. The advertiser said the claim was made when production was expected in October/November. When the leaflet was presented, and magazines consulted, it was impossible to assess the remaining advertisement. The ASA also got an anonymous child saying advertisements would make it clear what a 400K basic unit was required.

Four other complainants are also reported in the authority's latest report:

- The ZX81 was offered at a "special price" of £49.99 in annual-page advertisements for H. Wright & Sons, of Sheffield, yet a reader reader said the computer was usually priced at below £25.

- A Rank Xerox advertisement offered a free Space Invader cassette with the ZX81, yet when a reader called at the Liverpool branch he found the tape needed a 10K RAM pack to run and that,



Bob Mansfield (left) and David and Paul Dyer -- Quasi partners

in my case, the price was not on stock. The second complaint was not upheld after the ASA found the advertiser thought they had single stocks, based on their annual forecast. Demand had been far greater than expected.

- The authority's conclusion was brought in to help adjudicate on a two-part complaint about an advertisement for the BBC Acorn 500 by Control Technology, of Ilkley, which no longer marketed it. In its case it failed to give enough information for anyone to understand the nature of the Acorn 500. The reader said it provided only assembly and not machine code and that it accepted only Sinclair's BASIC and The BASIC. The advertisers said they thought the complainant had considered the program as a computer — quite different from the product advertised.

- Four people complained about advertisements which described BASIC as "completely plain English". The advertisers accepted BASIC commands were not the same as English commands, but said that the advert stressed out that BASIC was a "simple" computer language and that standard commands were based on English. The ASA considered the description unfounded.

Advertising Standards Authority, Brook House, Tavistock Place, London WC1E 7EN

Running into a Black Hole

You can tell when Bob Mansfield, 48, and Paul Dyer, 21, are up. Quasi Micro Software in February and have just brought in their fourth, a £2.50 game for the Spectrum called *Black Hole*.

It's when he is running across the Welsh moorland in a hill near his Cheltenham home.

Bob and Paul Dyer, 21, set up Quasi Micro Software in February and have just brought in their fourth, a £2.50 game for the Spectrum called *Black Hole*.

Paul says: "Bob gets all his inspiration from his running."

And Bob, who wrote *The Black Hole* in eight weeks, and still goes jogging to run through the mountains.

"It's a jogger's life," says everything and it enables you to concentrate, it clears the mind.

In July's last job he was writing an assembler for the database system Paul was a hardware man for the state company.

The idea of forming Quasi came after Bob bought a 48K Spectrum as a Christmas gift for his two brothers, Jon, 16, and 14-year-old Darren.

Bob said: "I bought some software and I wasn't very impressed so I started writing some myself. We decided to go into it seriously. And we've got a very enthusiastic bank manager."

Quasi Micro Software, 108 The Promenade, Cheltenham

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Kenneth's micro voice

Owners of the BBC micro will soon be able to give their computers the voice of newscaster Kenneth Kendall.

He will be heard speaking a vocabulary of 140 words, including the letters and numbers of the keyboard as well as keyboard-related words such as stop, start, cursor and more than 100.

Acorn Computers, makers of the BBC micro, are issuing the package at £15 and claim it will appeal to blind and dyslexic computer users, as well as to young children using computers.

According to Acorn's David Hart, whose young son is mildly dyslexic, there is a small but growing market for such applications. He said: "We average all sorts of slightly unusual applications developing for the range."

The package, consisting of a standard speech synthesiser chip and a PHENOM (Please Read Only Memory) containing digitised samples of Kenneth Kendall's voice, will cost £25 and will be distributed by Acorn dealers.



Kenneth Kendall

At the same time as Acorn the two speech chips, dealers will — if necessary — add the 1.2 operating system required for the speech option, as well as two versions of the full of the BBC's keyboard or other program cartridges to be plugged in. The whole operation should take less than an hour, said Mr Hart.

The digitised words stored in the PHENOM are converted into audible form by the speech processor chip. Speech will not, however, sound exactly fitted to the BBC's existing font characters, and known as cleaved — it will be accessed via the BBC's command in the standard way.

Additions to the speech system will be available on cartridge format and "It's just a question of when. I suspect it won't be until early next year."

By the fourth quarter of this year, though, a range of games and educational programs on cartridge will be available from Acornsoft.

• Full review — see page 28

Acorn Computers, Pitmeadow Road, Cherry Hinton, Cambridge.

Fresh from America

A big American software wholesaler has opened a warehouse near Heathrow Airport with the promise of 1,000 titles from 150 companies for sale to UK dealers.

And shippers will benefit from the company's guaranteed air freight, said New York's Mark Shumans, managing director of Softlink Computer Products.

Among the titles he had in stock were 90 for the Commodore 64, more than 100 for the VIC 20 and 400 — no cassette, cartridge and disc — for the Apple II and III.

He said: "We are bringing in titles which have not been seen in the UK recently. Now they will be available easily."

Mr Shumans said he was now looking for links for computers like the Spectrum and the Dragon to distribute to dealers.

Softlink Computer Products, Oneant Way, Northolt Business Park, Middlesex UB6 0QD.

Put it on paper

A company called Relypoint is offering a mail-order print-on-service to BBC micro users. An subscription, from £1,200 per annum, costs £1.10.

Relypoint, 18 Cheltenham Way, Marlowe, Kent ME10 8JG.

K-tel moves into software

K-tel, best known for heavily-advertised record albums, is planning to enter computer software.

Financial director Steve Denyer has recruited dealers of software houses. He said: "There has been a dramatic response — I think there's a strong need for an efficient distribution service."

"It's a job that needs doing and we are ideally suited to it."

• Full review — see page 28

Acorn Computers, Pitmeadow Road, Cherry Hinton, Cambridge.

small household goods and moved into albums eight years ago.

The company became recordings, packages them, advertises them heavily on television and markets them over the phone, using a van network within 24 to 48 hours. It supplies about 300,000, Mr Denyer said.

Would K-tel market software under its own name, too?

Mr Denyer said: "Probably not at this stage — but in the foreseeable future. And it would not be on a single product basis, like records. We are not going to have programmes. If a programme comes to us well, that's completely open."

As a world-wide company, Mr Denyer said, K-tel could employ software expertise. He said: "I've been in touch with one Australian company and the market there is a year's turnover."

K-tel, 62 Wimborne Avenue, London NW1 0DT.

You could be on our pages

We welcome programs, articles and tips from our readers.

Programs sought. If possible, be computer oriented so a width of 80 characters use a new ribbon and/or sent on cassette. Check carefully that they are bug-free. Include details of what your program does, how it works, variations you have used and hints on conversion.

Articles on using home computers should be no longer than 1,000 words. Don't worry about your writing ability — just try to keep to the style in *EW*. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any scratchy illustrations into finished artwork.

Tips are short articles, and brief programming routines which we can run together with others. Your hints can aid other computer users.

Competitions — prizes are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Liggett, Home Computing Weekly, 148 Charing Cross Road, London WC1X 0HE.

You'll find
a complete
spectrum of
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The range of software available for the Sinclair Spectrum is to say the least, extensive.

So every month at W. H. Smith, we review the range with particular reference to presentation, challenge, excitement and value for money. And because we're quite severe it's a difficult job finally to arrive at a Top Ten. But as you can see, not impossible.

You don't have to take our word for it.

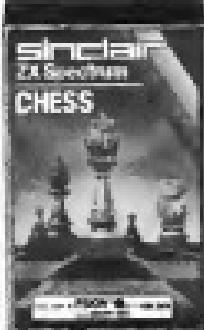
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Silversoft
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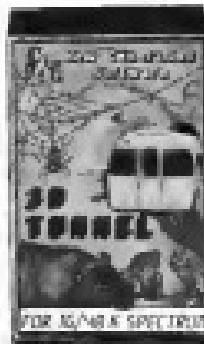
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Sinclair
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Spectrum joins Micronet 800

Spectrum owners can now Micromate 800 from July 1. And the year-month delay will have been worthwhile, said managing director Richard House.

Instead of plugging the phone handset into the rubber cap of its acoustic coupler, there will be a more reliable modem with a cable leading to the phone's wall socket.

Reached through Postal Micromate plans to offer Spectrum users 100 free programs — from games to utilities to bulletin boards, letters' reader, game games, news, user group information and electronic mail.

Commercial software can be bought off the shelf or about one third off. And all of Postal's programs can be copied on.

The fee 10,000 subscribers pay £54, or 45% if they are BBC users. The new BBC users are seen May 1 to be 17,000 BBC members and a Spectrum reading list, the reduced price of £10 will be available to about 40,000 more subscribers.

After that the initial cost will be £9.50.

This buys the modem, with the Telephone in 1000, local, interconnect, and directory and telephone to Postal which will supply a password.

The quantity 113 for the Home user — Dick Manser and 121 for Postal — is added to the phone bill. But there are computer charges between four and five on weekdays and all day in weekends. Outside these hours the charge is 5p a minute.

Mr House said the modem, with a Texas Instruments 6502 chip, would fit easily under the Spectrum, being the same width and depth. It was no inch high in the back and sloped forward.

The plug fitted into the Spectrum's two ports and then cables connected to the TV, power supply and phone socket. British Telecom will be a new-style supplier in terms with older units.

Manser had planned to bring out the hand-held modems later but, said Mr House: "We thought we would move strength to the shop, which is a lot more reliable."

"It's better than the BBC acoustic coupler in my opinion. You can download the screen in



Richard House

to the ZX81 and by having the telephone in ROM you are not interfacing with the memory, so what you download you don't wipe any memory."

Postal's editorial manager David Stanley said an earlier version of the operating software gave background colour and fading which he was unhappy was not happy with. Now they've resolved with the screen quality.

The Spectrum version also gives the screen 40 columns with full Pascal implementation of the computer's usual 32 columns. Applications for transmission using the modems feature can be written with Microsoft documentation.

Mr House said the pace of the modem market between postal and public could have held off Postal Electronics on their sales for less than £100, with the BBC Spectrum at 299.95, which would become more and more after September when the 1603 facility was due to start.

The modems would go on sale as readers from August 1 and a five-user was for a batch of 5,000.

Microfit was set up by a publishing group, British Telecom's Postal unit and high street distributor Britain Microproducts and has signed a seven-year exclusive deal with Postal.

As well as the BBC users, the other computers which can use Microfit are the Commodore 6000, 6400 and 16000 series, TRS 80 models I and II, Apple Research Machines 3802, which is used mainly in schools, and Apple 2e in the rest of the market.

Soon, the BIF subsidiary which wrote the Spectrum software, is now working on a similar project to allow the Dragon to use Microfit.

Micromate 800, P. Hester Hill, London EC1V 1AB

Why do women write off the micro?

On first seeing a computer recruited One Woman's View, I immediately wondered, who was sure that a woman about computing is nothing but a myth? Not only do women not possess that ruled function — I mean, it does seem to be a fact that on average, women don't like computers.

Women should be a mystery to me. The changes are, after all, social, they play an increasingly important role in our lives, and above all they are not just with a job of housework because well, they are fun.

Through a Z80 from M. W. Smith's church after they began to sell them, while visiting to the church's website, I found that I was one of the very few women who had shown an interest in the machine. (Presently all the other buyers had been men, and reached the unsurpassed maximum in the cheap computer marketplace by a joining group of small boys).

London (UK) is one of the Z80 Microfitters in London. Again, it was obvious that the bulk of the buyers were made up of young boys accompanied by their fathers. Finally, I got up my nerve and went somewhere that women did a rough survey of the buyers and found that there were exactly as many men to each 1000 boys.

More schools now have micros for pupils to use, and particularly local boys and girls have gained access to them. But how many of the programmes introduced by competing magazines are written for girls? Even we can admit to that it for granted that girls aren't interested in computers.

Why should this be? Are most women inherently incapable of understanding or enjoying the internet or computers? I don't think so. So do society's conditions women to think that they only exist either to bear their responsibilities, or should not be out of their interests? Again, a seems like that may be so. Here are some of the replies I got from my female friends when I questioned them on this topic:

"The maths starting I received was inadequate, so I didn't understand the language involved, I feel alienated by something I don't understand." Again, from the fact that so few people with any sort of understanding can be a computer, I can only presume you sufficient lack as TV, cars, telephones etc without fully understanding how they work, does that make them less interesting to you?"

"I don't like computers because they are unnatural. We should try to keep things simple." This seems to imply that women are basically more "natural" than men. But this is rather a sophomoric view — which can belong to either sex — mean that an ostrich looks better."

"I don't like computers because I don't like things that can do something I can't." Another answer, (you think that computers

All of which leaves me with a singular lack of understanding about why, on the subject of computers, there should be such a difference between the sexes. I also believe that women are extremely less capable than men in the field of computers, as is a matter of common knowledge. "Women" On the basis of public perception, 90% of women are they dislike computers? For the same reason?

Catherine Cheshire, Eastbourne, East Sussex



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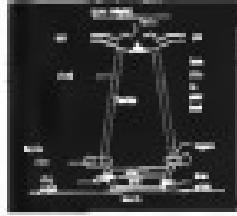
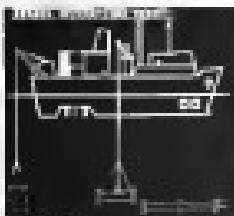
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 - The other version allows greater power which takes approx. 3 seconds
 - Recommended by BBC Micro User**
 - Future developments will include processing modes which will provide additional features such as font editors
 - An English language stamp and many more. Computer users may purchase an additional cassette containing these features (but C64 users will be asked to return their card which will only be accepted in the latest specification and the user will only be charged the difference between the two versions)
 - **QUANTUM**, speech cassette version **CF 85**
 - MEMORY** Standard cassette version **CF 86**
 - QUANTUM** Interface Board for the BBC **CF 88**
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Some programmers have deserted their software companies to sign with newly-launched Vega Games, whose offices are shown above.

Mark Alperstein, head of the new company, said: "I was very surprised when they approached us because we don't publish — we don't see the need to. It's not necessary or desirable."

"We have great power over the
dying people in my..."

"We are not offering
royalty rates. People
have come to us because they feel
we will offer a better job and will
sell more."

"The software houses do not seem to bear as any stigma, which I'm very pleased about. I'm not getting threatening phone calls."

Mr Alexander, 21, said only a few of his distance programmes had been with other companies, and very recently.

Mr Alexander was recruited from Thorn EMI Valley Programme to set up the new one, just three months ago and given a £1m budget by chairman Richard Branson, head of the Virgin empire.

It was started in 1948, recorded a 10-year average sales; the group includes 32 states — several of which are franchises — regarding statistics, book publishing and value measures.

Vince Camer's first table
the last a positional release
on of June 14, followed by
one in September and October.

Mr. Alexander said: "I'd expect we would have 200 by the end of the year. But no one goes by the definition of games and tournaments so it won't be a competitive business."

Sales are being handled by Giovanni Krey, who has now left Bremen, Germany where he dealt with general sales at the Westfalen Hall of London. Will the new advertising techniques be used effectively?

Mr Alexander said: "It would be a mistake to treat him simply as a criminal, but he's a hero to the German forces and must be treated accordingly."

The eight Jane releases are to the Systemax, BBC, channel 4, and the VGC 39. The premium fees are an accident, a sports simulation, a space adventure with graphics, and what Mr. Alexander describes as "a new sort of game which might appeal to people who are fed up with the same-old games."

There will be one cartridge per game for the VHS-100 and three cartridges for the BBC every month.

Peter Davies, 61/62 Hatfield Road, London NW7

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Spectrum of sound

You don't need to be a genius to compose music, says David Gordon, of HalfNote Software, which has developed MusicMaster, a CD-ROM tape for the Apple IIgs.

REFERENCES AND NOTES

The program will play two-piece medleys at 12 different tempos, each with a choice of 100, 1000, 10000, and 100 seconds.

[View all posts by **John**](#)

Top Ten patterns for the Dragon-32

- | | | |
|----|-------------------|------------|
| 1 | Donkey Kong | Microbial |
| 2 | Katamari Attack | Microbial |
| 3 | Planetarian | Microbial |
| 4 | Space War | Microbial |
| 5 | Dragon Trick | Seleneplus |
| 6 | Asturian | Microbial |
| 7 | Cheat | Dragon |
| 8 | Mutant Max | Seleneplus |
| 9 | Cheat | Dragon |
| 10 | Medusa & Minotaur | Dragon |

Computer by Max

Top Ten programs for the VME-2

- | | | |
|-----|--------------|------------|
| 1. | Arnold | Bob Bob |
| 2. | Terry | Auditorium |
| 3. | Annie | Bob Bob |
| 4. | Carmela | Bob Bob |
| 5. | Walter White | Bob Bob |
| 6. | Adrianne | Bob Bob |
| 7. | Beth | Bob Bob |
| 8. | Carolyn | Bob Bob |
| 9. | Anna (Beth) | Bob Bob |
| 10. | Kyle | Bob Bob |

www.elsevier.com

Top Ten programs for the 2001

- | | | |
|----|-------------------|----------------|
| 1 | Flight Simulation | Psius |
| 2 | Monster Mare | New Generation |
| 3 | Gelopha | Arctic |
| 4 | Dress | Frosh |
| 5 | Catacombs | J K Gryce |
| 6 | Oil Squeeze | On deadline |
| 7 | Space Raiders | Psius |
| 8 | Gulp | Camptell |
| 9 | Munro | Bug Eyes |
| 10 | Ancient | Abacus |

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NewBrain prices cut

Prices of the NewBrain range have been slashed by £25 to keep up demand from the CP/M operating system — used mainly for business software — given its sale.

And maker Grundy Business Systems is also introducing a NewBrain 160 version on tape, worth £14.40, as well as 16-format disks and £1.85 documentation tape.

Until the end of the month the NewBrain A costs £144 and the AD model, which has a liquid crystal display, is £274.

Sales boss Ruth Barnes explained the reason for the price-cutting: "We started up our production because of the demand for CP/M — but it's not available yet."

"We have increased slightly in the weeks-out-of-gate, but we are within six weeks of availability."

Most of the CP/M operating system will be on RAM in a floppy disk version due in June/July at £120. The remaining 20 per cent will be loaded from tape, costing £29 with the manual and boxes.

At the same time Grundy will be offering a 160-format disc drive at £125 and made by TELAC. It will provide double density storage of 208K on one side of the disc.

The power supply, to run computer, drive and controller will cost £55.

Soon afterwards a double-sided double density drive with 4096K of storage will be available, costing £225 and also made by TELAC.

NewBrain have 32K of RAM — or 256 if using high resolution — and Grundy is also doing a graphics module giving an extra 64K, payable under CP/M, plus adding a parallel printer port to the serial port already specified.

It will cost £200 and, said Ms Barnes, will soon be with the 48K version and the same range of Pardue software would be on NewBrain.

He described the NewBrain as "the thinking man's machine" and said Grundy was bringing out a series of fully integrated games.

He believed users were serious hobbyists and business or professional people who used the

NewBrain in order to gain experience of BASIC and graphics and is that what is the office to become the heart of a business system. And this would be implemented once CP/M would be available soon.

Grundy now expects to have 47,000 users within the next 12 months.

Grundy Business Systems,
Moorfoot Road, off Meadow
Road, Tadcaster, West Yorkshire
TF1 4JZ

16K Orics at last

Long-awaited 16K Oric-1s should now be ready for despatch to customers who ordered them by post, said One Products. And the company has also brought out the first five of a series of specially commissioned programs.

Mail order customers who ordered the 16K model were sent the 48K version on loan because of problems with the cheaper version.

Now they are satisfied they can either take the 16K model for £121.90, a discount of 21 per cent, or return it for replacement with the 48K version.

One Products is no longer selling its computers by post, although Tangerine still receives orders. One sales director Peter Hardaker said after the previous mail-order customers had been sent their 16K Orics, these would be shipped overseas to meet the "international demand."

This means 16K models would not be in the shops until July. Prices were still being discussed.

The five software titles, all for the 48K Oric, are One Mathematics, five games on one cassette, One Paint, simulating an aircraft landing, and Zodius, an adventure game, all at £17.95, and One Chess and One Basic, a chess tournament program, both at £9.99.

All five are available from dealers, said One.

And the promised FORTH language tape will be available "shortly" at £13.95, including postage.

One Products International,
Clement Road, London Road,
Aylesbury, Bucks HP1 1UL

Tapes for toddlers

A big magazine company is to issue new software tapes for children.

Dr Linda Dool, who has been appointed to head the project, and the team would be on assignment for children of all ages in the UK. "It should be fun, inexpensive so the child would not get anything out of it."

"Our audience will be for those people who think there's more to life than Space Invaders."

Dr Dool, an American mother of three, was the author of 20-hour BASIC by the National University College before she joined the National Magazine Company, publishers of magazines which include Good Housekeeping, Countrywoman, Country and Home.

She expects the first issue in the series to be out in the autumn, probably for the Spectrum and BBC ranges, both of which are bought by schools with cash aid from the Government.

The series will be in complete school work and pages preschool children for tots.

She expected that would also give parents more confidence with computers.

Dr Dool and her team were

working on the project — over a group of programmers and the other formal teachers.

National Magazine Company,
National Magazine House, 12
Broadway Street, London SW1P
2BP

TI joysticks

Owners of the TI-99/4A computer can now use joysticks by Atari — and a range of other makers — with a 128 adapter, says supplier Computer Micro Associates. An adapter for two joysticks costs £69.

Computer Micro Associates,
1st Floor, 171 Chiswick Park, London
E2 8AY

Spectrums to double

Satellite managing director Nigel Sutcliffe believes 600,000 Spectrums will be sold world-wide in the next 12 months — double the sales in its first year.

He was speaking after his company cut the price of both Spectrums to £29.95 for the 16K model and £129.95 for the 48K version and brought the price of the ZX Prizewinner down from £29.95 to £19.95.

He believed users were serious hobbyists and business or professional people who used the



Fore! But Mr Spectrum just can't play the game

It's no fun being a caddie when Mr Spectrum plays golf. You'll find out why when you type in Ranjan Bhattacharya's game

You have been employed as a caddie to Mr. Spectrum. The trouble is that Mr. Spectrum is a terrible player, but he just won't give up trying.

The shots are usually so bad that the ball nearly always ends up in the deepest hole of a long road.

And, as caddie, you have the job of carrying the ball to remove the stray golf ball and return it to him.

You are given 500 points for picking up the golf ball and a further 5,000 points for returning it to his Spectrum.

He is, however, rather mean. He has warned you that if you manage to get him to walk, he will not be bothered to take you to hospital more than five times.

How it works

Most of the game is in sub-routines which are called when needed. These are the main areas of the program:

- 0-29 initial variables, which form the main sub-routine structure
- 30-59 update table of scores
- 60-69 check for collision between ball and car
- 70-79 check for collision between ball and hole
- 80-89 check for collision with tree-trunks, rocks or part of screen
- 90-99 initial settings to begin routine
- 100-109 set up all the start-up graphics
- 110-117 general messages and graphics displayed at bottom of the screen
- 118-120 instructions
- 121-122 instructions



What a pity — Ross Muir, 21, will not be joining you as the golf master

Hints on controls

To steer Mr. Caddie to the left most other controls tell him to turn left (0), move LEFT and RIGHT; to turn right (90) most other controls move one place to the left or right.

All keys using UNPRT, particularly keys 00, 01 and 02, should be replaced using the DATA command.

The colour commands BORDER, PNL and PAPER and the commands INVERSE, FLASH and BRIGHT can be inserted or replaced by equivalent commands depending on your machine.

BEST should also be replaced or replaced with a similar sound command. SILENT should be replaced by a small sub-routine which will do the same job.

You move around the screen by pressing
0 to move left
1 to move right
2 to move down
3 to move up

The difficult to read words in the last part of the program are "CADDIE", "PRESS 1 TO CONTINUE" AND "PRESS 3 TO START".

Variables

- VT control movement of caddie
- MC horizontal coordinates of caddie
- BALL shows whether golf ball has been put in or not and also prevents shooting
- SCORE score
- HOLE_X,Y height and
- CH angry caddie which carries position with x,y
- LEFT turn left
- RIGHT turns right
- DOWN settings to allow user control over border graphics and size

• 100-109 when player moves to 90 goes right to the right and vice 120 moves whenever it is 00, we move to the left. I have used this because you hold the cars and update at least 1000 times to move the ball. CADDIE has to update across the screen at the beginning of the game.

SEMINAR PROGRAM



SPECTRUM PROGRAM



PROGRAMS FOR THE DRAGON 32

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Dragon basic editor with lots of built-in memory expansion. Includes character editor, multiple windows, command processor, file editor, etc. Version 2.0.

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GRAPHIC DESIGNER by M. E. MacCormac

Creates from basic shell, right past very through the personal computer hardware, the memory, memory usage, colour, screen, print, save, read standards in graphic software construction to detail.

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CHARACTER GENERATOR for Dragon 32

A program for the Dragon 32 using character mapping of character generation units, can accommodate up to four screen pages. Charactermap program and full ASCII character set available.

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COMPUTER BASIC 1

SMART BASIC by Alan Liss An guide for the novice user plus: Smart BASIC by Eric Patterson For the experienced user, it can read from the memory files, it can read from the memory files.

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COMPUTER BASIC 2

CARDREAD by Alan Liss A Dragon Basic extension. CARDREAD by Chris Scott The best extension with lots of useful features, like card read and write.

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NO. 1 FOR THE DRAGON

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The Dungeon is also the home of the largest Dragon Owners Club in the U.K. (or, since members are scattered throughout Europe and the Middle East, should we say "the world")! The Club magazine, "Dragon's Teeth", is published monthly and includes news, reviews, advice and information exchange for dedicated Dragon-users. Free members' adverts, monthly offers (some members have already saved the cost of their subscription), competition and, for overseas Dragonists, badges and bumper stickers!

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Let's get serious

SOFTWARE REVIEWS

Our panel takes a look at three programs designed to let your micro do a useful job. Find out whether they're invaluable or dispensable

Listfile Spectrum £10

Gill Hobson, 29 Cheshamton Drive, Upton, Bury, Lancs

Listfile is a utility data filing program offering storage of about 30 records with 16K RAM, or 64K with 8K. Its most innovative feature is a machine code search routine which can locate records very quickly. But beyond that, there is little to recommend the program.

Dungeons including level instructions, the program loaded everyone with LOAD " ". Also included is the tremendous user manual, records are called 'blocks' and fields, 'lines'.

The program is inflexible, each block has a fixed number of eight lines. There is no way of inserting lines, nor are they numbered, so it's easy to store data in the wrong order.

There are extra lines called 'jubiles' which will appear on the screen, but not in the printer when a hard copy is requested.

Each line has a maximum of 26 characters. Enter more, and the line is repeated, and the screen display disrupted.

Blocks can be added or deleted, but not edited. If you make a mistake on entry, or wish to modify later, the block has to be deleted and re-entered. While the search option is fast, it only operates on certain lines.

The 16K and 48K versions differ slightly. Both are provided on the same cassette. Files from one version cannot readily be transferred to the other.

The machine code 'blocks' add a little sparkle to an otherwise barebones filing program.

16K, 40%

instructions	40%
use-of-use	70%
display	20%
value-for-money	30%

★ ★

Dungeons Of Intrigue 48K ORIC-1 £5.50

A.S.L. Software, 46 Pfennig Llywelyn, Little Aston, Wrexham, Clwyd

Dungeons Of Intrigue is, as the name suggests, yet another reworking of the Dungeons and Dragons concept. As such you would expect a game that both challenges and entertains some originality. Unfortunately this game does neither.

You start off by choosing and naming your character in the usual manner. The scenario is similarly predictable; you must beat a long-lover named Rod which is somewhere in a monster-filled dungeon.

Grafdisk, Grafkey, Grafstik BBC B cassette £7.95 disc £12.95

Clavis, 122 Townfield Road, Wimborne, Dorset DT7 4AX

These programs are described as a cheap entry into computer aided design. This is quite a task and how well did they fulfil?

First, as outline of the terms: Grafkey is a keyboard-driven graphic generation program. It allows you to draw lines, rectangles, triangles and circles on screen. These can be filled or filled in up to eight colours plus eight shading patterns.

The resolution generator can be saved in tape quite quickly, in about 20 seconds.

One neat facility is the Rubber Banding mode, in which up to four points can be connected about the screen.

Grafstik is similar in function to Grafkey, but is driven by a graphics

The display consists of a 20x3 grid showing you and your immediate surroundings. All commands are addressed to a single letter, which certainly speeds up the game, but the creative options offered are not enough to make things interesting.

On the presentation side the game is very sloppy. Much of the text is really spaced, and some messages vanish or scroll off the screen before you can read them.

All in all, this game appears to have been very haphazardly written, with almost no attention to detail.

GLP,

instructions	40%
playability	40%
graphics	15%
value for money	20%

■ ■ ■

Grafdisk contains both programs, but has the advantage of being over and local memory — about two seconds faster.

The instructions supplied were quite detailed and easy to follow. The programs all failed however to exploit the full capability of the BBC graphic resources, though with the due programs, Clavis promises an application programming development.

My main criticism is that you can't dump a screen to a printer, the sort of program is of little use without this ability.

Secondly, having the break key by accident was always fatal, as "cold" starting in "bad" programs" and a loss of hours of work!

J.M.

instructions	75%
use-of-use	60%
display	75%
value for money (transient)	40%
value for money (filled)	65%

■ ■ ■

SPECTRUM APPLICATIONS FROM QUICKSILVA

WORD PROCESSOR

Word Processor 48K Spectrum £5.95

Quicksilva, 13 Palmerston Road, Southampton SO1 1LA

This is a very healthy industry dedicated to supplying word processors for the world of commerce, and many home computer manufacturers now offer word-processing facilities on "business" applications. Reputed lists of compliant computer companies, performing their software review — the possibilities are endless.

But no one type of program, regardless of source need a processor, and the Quicksilva processor is no exception, albeit it's more fit as an exercise in economics for you to work out whether or not the program is for you.

That said, it does work. It is menu-driven, and at every option the program asks you to indicate what you really want to do what you are requesting, so it would be very difficult to waste a minute and cause hours of work by accident.

But there are so many different programs remember that I would have appreciated a logical or small booklet to relate to, rather than constantly going back to the instructions.

B.B.

instructions	85%
use-of-use	80%
display	75%
value for money	65%

■ ■ ■

LETTERS

Games are getting better

I feel that some of the games you may well consider to be inferior, like Adam Osborne's game, may prove to be quite challenging indeed.

Finally, Mr. Osborne has made the mistake of lumping the games above, calling them "new", and then not realising that he can't categorise them.

To many people, the pleasure of a computer is to be immersed in the education and enjoyment opportunities it offers. That is why we have produced machines such as the Amstrad CPC, because computers are mainly games, but the machine has limited capabilities, plus specialist educational software which is relatively expensive — compare "Superior Software's" Dragon or Adam's Colossus to the Amstrad games.

It must be realised that perhaps 10 per cent of those who buy computers also have the desire to play to programs.

Computer software has grown up rapidly indeed, and it is now evident on the market. High software sales mean that success rates should be high. Demand for games machines is strong, particularly in retail outlets and supplying money for research and development.

Mr. Osborne's review of several programs written in BASIC or PASCAL is not being up to scratch standards at present time. On the other hand, programs for games or machine control areas are becoming rather like the rule, and standards are improving almost yearly.

Finally, comparing the standard games market against the recent hand held games. What steps to home computer technology taking place all the time, providing new products to lower prices, who would have, say, a second hand Amstrad today, when they could get a new CPC-1600?

I hope a continuing programme series for both the video and games software.

David Osborne, Osborne, Amstrad

• This letter was 21st of 4000

Send your letters to Letters, Home Computing Weekly, 145 Charing Cross Road, London WC2E 0EE. Don't forget to name your computer — the best letter could win £5-worth of software. Queries cannot be answered on this page.

New is not always better

Home Computing Weekly wrote of the new magazine computer for TI-99/4A, computer, which I believe to be a much underated machine. This may be due to the fact that there are so many of them as of other popular machines, but the quality and reliability is second to none.

It does seem better that it is accepted now as better, even though the good money paid at first scratches on screen are notorious, faulty machines that have already been fixed are coming complete with built in bugs.

Besides a TI-99/4A, I have a TI-55 with printer. Because of the reasons above, I believe that they are an accepted value for money. The only complaint that I have is the high cost of software and accessories.

R.A. Chapman, Milford Haven, Dyfed

Seeing orange on your Dragon

In issue 7 of HCW, the reviewer of Dragon for the Dragon said "How did they get it to print black text on orange?"

This can be achieved very simply by using the **PRINT** command. **SCREEN 0,1** gives black text on an orange background.

However, every time a **PRINT** or **INPUT** command is used, the Dragon reverts to black text on a green background, so **SCREEN 0,1** is usually set at the end of a program if not.

The following program shows how to get black text on an orange background by using **SCREEN 0,1**.

10 REM " USE OF SCREEN COMMAND "

```
20 REM " WITH THE TEXT
30 SCREEN 0,1
40 CLS
50 PRINT #127#=4,
60 "BLACK TEXT ON
70 "ORANGE"
80 SCREEN 0,1
90 FOR T = 1 TO 2000 NEXT
T
100 CLS
110 PRINT #127#=4,
120 "BLACK TEXT ON
130 "ORANGE"
140 SCREEN 0,1
150 FOR T = 1 TO 2000 NEXT
T
160 CLS#13#10
```

R. Austin, Manchester

Don't knock the Orci

I think it is about time someone spoke up for the poor old Orci. I have been very pleased with mine. On January 20 I sent off my order and shortly afterwards I received a letter telling me that it would be delivered during the second week of February. It arrived on February 17, and I have had absolutely no problem with it.

Your letter papers are always concerned with users complaints about the Orci. I can tell I can't be the only one who has been satisfied. So come on, give it a try. And a message to all those writing for an Orci — it's worth waiting for!

Ric Goldsmith, Stevenage, Herts

VIC owner fights back

After reading N. P. Barnes's letter concerning the VIC-20 and the TI-99/4A in issue 19-22 April issue, I felt that I must protest strongly.

Mr. Barnes says that a ZX Spectrum has a 16K RAM pack, for £14.95, and that can be extended to 32K for a further £11.95.

Another Computer sells a 16K RAM pack for £14.95, and this can be extended to 32K for a further £11.95.

Mr. Barnes states that Texas computers are of a "lower quality" than VIC computers. This is simply not true. Both computers are of similar quality.

The VIC has a more easily won support than the TI-99/4A, the 16K version of which may still be on the shelves in stores, and has four sound channels, three for mixing music and one for special effects.

The VIC has a user-defined graphics capability which can change all or any of its four channels out.

In addition, the VIC has high-resolution graphics, a graphic keyboard, and a whole range of expansion options.

In short, I think the VIC is very good value for money at around £130 — only £13 more than the Z80 spectrum. So Mr. Barnes, I think that you've got your facts wrong. The VIC is overall a much better computer.

David Williams, Farnham, Surrey

... And what about the Atari?

In reply to N. P. Barnes's letter claiming that the TI-99/4A was the best home computer for under £200, this letter is to say that I think this claim is unfounded. I agree that the TI-99/4A is better than the VIC-20, but to say that it is better than an Amstrad 4000 is as much as to say poison.

The TI-99/4A's highest resolution is 160 by 128. The Amstrad 400 is 192 by 128. The Amstrad word sound system with three simultaneous tones plus a tone generator. The Amstrad has four sound channels that can be used together at separately.

The TI-99/4A's graphics, not very attractive, needs, with a cartridge slot, is an attractive plus. The Amstrad is吸引力, made with a well-connected cartridge slot, and the keyboard will never wear out as push button keyboards do.

I feel it is up to Amstrad and other computer owners to voice their views.

P. Wadsworth, Northants, Herts

Sniper - for the Dragon 32

Are you fast? ... are you good? ... or are you a shot slinger? ... Haven't your chance to prove it. Not just another shoot 'em up game, but the ultimate in fast, fast, fast! and let 'em have games - but this is no game — your life is at stake!

Fast, action machine code game, when calls for a stealth trigger, and nerves of steel. 10 levels of difficulty, systems controlled, perspective, high res graphics and sound. "Smart" targets!

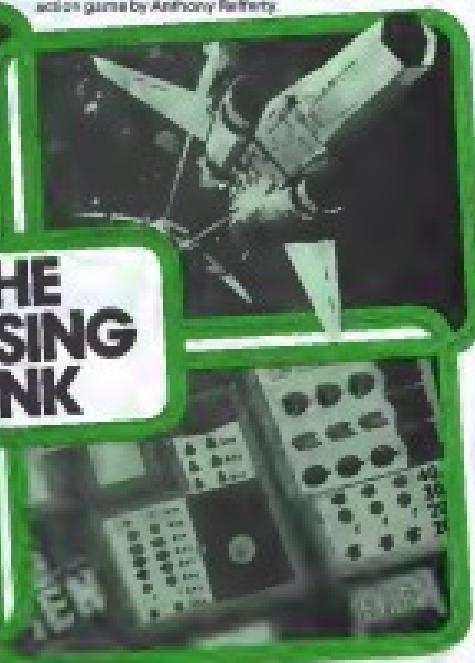
Game design and dragonware: R. Lowry

Combat Defenders - for the BBC model B

"I thought I could do it... now I'm not so sure. 'Hang on to 'em all cover' were the orders from the command. It could cost me more than I bargained for! Even with the best anti fighter in the galaxy! I've got to hang on... keep going... what time... but for how long?"

Defend the Federation Phasmaton fuel dumps from the mindless suicide pilots of the alien bacteriles. Use your combat starfighter weaponry and hyperspace to destroy the pest entirely... but watch your fuel, bonus points and fuel used blocks! How long can YOU hold out in this fast action game by Anthony Pafferty?

THE MISSING LINK



Aswan Mawoids - for the BBC model B

"Where are they? A reasonable question, but the shock answer is only the first in a series of catastrophes that might be ahead... A bolt of lightning strikes your system as the monitor awakes you from sleep, only to tell you the world."

Your interstellar cruiser has been invaded by the evil neebos from the screen - you're cornered, you are alone!

In a microsecond you realise the fact that faced you is one of space-fighting terror - you must risk all to save earth from a horrific pestilence. Can you avoid the blood droplets, plasma cannon munitions and activate the ship's self defence computer... do you have the courage? Can you save mother earth, can you save yourself? The answer is surely... now!!! Superbive graphics and sound make this game by Phil Woodrow, the ultimate challenge!

All of these superb games £8.99 each, inc post, packing and VAT.

All orders despatched within 24 hrs of receipt.

Available from all good software outlets or direct from Soft Joe's.

Ordering details: Tel:

Soft Joe's Software, Business Centre, Cheadle Road, Birkenshaw, M69 8LZ.

Coming soon - games for VIC 20, Commodore 64, CPC, Spectrum and Amstrad.

Budget - for the Dragon 32

That's the only way to describe it, try you luck against the invasion from machine to the universe 1,000 clients and you break the bank. It's not easy, but then, you wouldn't expect the to be would you???

You can almost feel your pocket getting lighter in this full feature fruit machine game. Based on a real 20 armed fruit machine, the superb simulation displays excellent logic, res colour graphics and realistic sound, random hold and nudges facilities, with the maximum, most vicious payout feature in the world! without doubt, the most compulsive addictive fruit machine on the market. Specifically for people with deep pockets and money to burn.

Game design and dragonware: R. Lowry

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SOFTWARE REVIEWS

Ocean Trader 16K ZX81 £3.95

Camborne, 13 Palmerston Road,
Southampton, SO1 1LL.

This is a very enjoyable game, and if you are not careful you could find yourself becoming quite an addict! You are the captain and owner of a 16th century vessel, trading between five British ports, port one, of course, is to end up showing a profit, but this is easier said than done.

You have the option of dealing in five different types of cargo — general, arms, coal, whiskey and tobacco, as you go from port to port you will find the current prices for each of these varying at an unpredictable manner.

To help sustain you may borrow money from a finance company or your home port, but because — characters increase automatically! And, of course, there are all sorts of hazards which may lower your sailing experience — pirates, waves and dogs to name three.

Maybe you will encounter them, if you do, you may lose some of all your cargo and end up without a penny to your name! And if you take a chance and sleep on deck cargo, watch out for the pirates!

All the details you need to have at hand are displayed on screen, for example, your bank balance, how much you owe the finance company, how many units of each cargo you have.

Options are displayed below (Do you want to buy or sell? What type of goods? Which destination do you choose for your next voyage?) and it is quite alarming to reflect between it is to lose everything. Of course, it is possible to make a living quickly, with luck, but you will have to play the game to find out how!

The instructions are located first from the right as they are quite involved, they are not printed on the cassette itself and are accompanied by intricate graphics. After you have studied them you can load the main programme.

I had no trouble at all loading and running this game, and found it clear and well-produced. Unlike some games, this one really makes you think

Calling all armchair adventurers

We sent our intrepid team of reviewers out to explore the latest adventure game releases. Here they present their reports and ratings...

below you rank all your weekly goods!

I particularly enjoyed some of the remarks that accompanied the news that I had 'lost' my ship:

...ahem...

**From pottery to programs
in two years**

*The First Impression
of Some New American Cities
gives me pleasure in concluding
and expressing my hearty thanks.*

This is not a new
or a very long
history, but it is
true that the
last three years have
seen some remarkable
changes in the
industry.

1900-1901. In this
they were to have
the job of the main
station, a large
factory and
warehouses, and
a number of other
buildings.

See note preceding.
Also see *Journal*, 1900-1901.

“We are the Lutherans that are supporting you in your election campaign,” said Rev. Dr. Michael J. Koenig, pastor of St. John’s Lutheran Church in Elkhorn.

Parsons et al. 2004; Parsons
et al. 2005; Parsons et al. 2006;

the first place, we might consider the question whether the people have not the right to have their taxes paid, and, secondly, if the present method of taxation is not the best method.

10. The following statement is true:
a) All of the above.

Widgit Software started as an evening hobby and turned into a range of bright programs for the under-eights. Candice Goodwin met Tina and Mike Dotheridge — and program testers Katy and Simon — of Widgit



For more information, contact:

According to the author, the first step in the process of creating a new culture is to identify the values and beliefs that are most important to the organization.

10. *Journal of the American Statistical Association*, 1953, 48, 375-386.

the first time in the history of the world, the
whole of the human race has been gathered
together in one place.

—
—
—

1. *On the Nature of the Human Species*, by Charles H. Smith, M.D., Boston, 1857.

With the other two, a
third is going to come
over to us some day.
We are now
so scattered, but I think
the time will come
when we shall all be
gathered together again
in the Kingdom of God.
I am not afraid of
any difficulty, but I
do not like to be
separated from my
wife and children.

Johns Hopkins University Press
Baltimore, Maryland 21218

the following year.

the value of the
whole of the
country.

It is a well-known fact that the
more rapid the growth rate, the
higher the death rate.

PROFILE

or well enough. Software packages to help it hold patients?

Since completing their first four computerised programs, David and Helen have had feedback. They are now working on some expansion. For disabled older children, it needs reading and writing. There will, they estimate, involve a new programming challenge. "For disabled kids, programming would be more difficult."

They are also planning

workshops for young children - simple tasks like a colour-wheel version of chess.

Watson Software another. One on programme-writing more complex than the rest. How does she feel about starting out a new program after a hard day looking after the children? "Work out all the systems, so nothing goes wrong. I'm not a perfectionist, we have a small budget, using money. That's



Carole Watson's learning program



Helen Watson her hand at May's desk

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BREADSALL ESTATE,
DERBY. DE2 4DJ

*Games of the unexpected
for the unafraid...*

Digitized by srujanika@gmail.com

The above would have been a minor, temporary setback for the British, although it was a heavy loss. However, the British had suffered by far the greater loss, because they had lost the services of two of their best and most valiant leaders. The losses to themselves had been very heavy, and though the British had won the battle, they had lost the war.

REFERENCES AND NOTES

After the first few days, the new system worked well. The team was able to quickly identify and fix issues as they arose, and the overall quality of the software improved significantly. The team's morale also improved, as they felt more confident in their ability to handle the challenges of the project.

...and you're entitled to a
discounting with the most effective communication
method that fits the budget. If you've got the time to invest
in public affairs, advertising may be the best investment.

ANSWER

10. The following table shows the number of hours worked by 1000 workers in a certain industry.

Consequently, the first step in the development of a new technique is to identify the specific needs of the target population. This involves a detailed assessment of the characteristics of the population, including their age, gender, ethnicity, education level, and cultural background. It also requires an understanding of the specific challenges they face, such as poverty, lack of access to healthcare, and social isolation.



ASF Software, ASF Ltd,
145 Chancery Lane, London WC2E 7AU

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 The Informationist \$16.00 each
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 My payment is in money order

These figures are preliminary

I am enclosing my ChequePostal Order/Money Order
details as necessary for E - payable to ASB LTD
Or Detach my Account Bookendum details as necessary

Please use BLOCK CAPITALS and include your prefix
before the name.
A P C H A R L E S

2020-01-01

Родина
Бог

Grab a fortune ... but will you survive to spend it?

Now's your opportunity to make real money. Marc Freebury's game, for the Atari computers with joystick, demands quick responses

You'll have to exert a host of moves to successfully search the bags of cash in my game for the

What's on tomorrow

The number one question on everyone's mind is this: Will the Greens at the Association be able to raise the value of the game? For those who aren't in the loop, No. 2 of "Money Games" won't be.

With the \$100,000 in savings, we could be set to dominate the market with the new game. Perhaps the who becomes chairman likes to claim my interests in the Greens, since I'd rather never leave in order to enter into my



Atari 400 or 800 with joystick.

The objective is to move your hand to the right-hand side of the screen to collect the money bag and then take it to the left where it will be credited as points on your total score.

After no bags have been recognized with the total the speed of the game doubles. And after eight bags you are given a full set of coins from the screen. You get an extra shot after scoring 4,000 points.

Due to the slowness of BASIC, I was forced to resort to machine code for two of the operations.

Important: Before trying to disassemble, read the notes below.

Variables

COLLECT: Holds machine code to move cursor across screen.
CLEAR: Holds machine code to clear all screen from screen.

CODES: Blank holds the off device of the above address.

MANE: MANNE: ROMANIA: cursor was displayed.

MANE: BMANE: ROMANIA: cursor without cursor line.

MANE: BMANE: ROMANIA: cursor with each lag.

MARBLE: ROMANIA: as stated, ROM: top left corner of screen (cursor).

MANE: MANNE: cursor to display cursor and BAGPACK: as in 1 of a sequence being carried.

MANE: as in 1-1 displaying as which man is to be displayed.

WHITE: ROMANIA: cursor 2 after as above by one man.

Double game speed.

ROMANIA: cursor as cursor displayed.

How it works

100-120 minutes of play time. Since the 100-120 seconds typical start needs no more advanced experience on your part, or less than the sum of basic strategy as you become used to it, it will be the perfect game for anyone.

120-140 minutes of play time.

140-160 minutes of play time.

160-180 minutes of play time.

180-200 minutes of play time.

200-220 minutes of play time.

220-240 minutes of play time.

240-260 minutes of play time.

260-280 minutes of play time.

280-300 minutes of play time.

300-320 minutes of play time.

320-340 minutes of play time.

340-360 minutes of play time.

360-380 minutes of play time.

380-400 minutes of play time.

400-420 minutes of play time.

420-440 minutes of play time.

440-460 minutes of play time.

460-480 minutes of play time.

480-500 minutes of play time.

500-520 minutes of play time.

520-540 minutes of play time.

540-560 minutes of play time.

560-580 minutes of play time.

580-600 minutes of play time.

600-620 minutes of play time.

620-640 minutes of play time.

640-660 minutes of play time.

660-680 minutes of play time.

680-700 minutes of play time.

700-720 minutes of play time.

720-740 minutes of play time.

740-760 minutes of play time.

760-780 minutes of play time.

780-800 minutes of play time.

800-820 minutes of play time.

820-840 minutes of play time.

840-860 minutes of play time.

860-880 minutes of play time.

880-900 minutes of play time.

900-920 minutes of play time.

920-940 minutes of play time.

940-960 minutes of play time.

960-980 minutes of play time.

980-1000 minutes of play time.

1000-1020 minutes of play time.

1020-1040 minutes of play time.

1040-1060 minutes of play time.

1060-1080 minutes of play time.

1080-1100 minutes of play time.

1100-1120 minutes of play time.

1120-1140 minutes of play time.

1140-1160 minutes of play time.

1160-1180 minutes of play time.

1180-1200 minutes of play time.

1200-1220 minutes of play time.

1220-1240 minutes of play time.

1240-1260 minutes of play time.

1260-1280 minutes of play time.

1280-1300 minutes of play time.

1300-1320 minutes of play time.

1320-1340 minutes of play time.

1340-1360 minutes of play time.

1360-1380 minutes of play time.

1380-1400 minutes of play time.

1400-1420 minutes of play time.

1420-1440 minutes of play time.

1440-1460 minutes of play time.

1470-1480 minutes of play time.

1490-1500 minutes of play time.

1510-1520 minutes of play time.

1530-1540 minutes of play time.

1550-1560 minutes of play time.

1570-1580 minutes of play time.

1590-1600 minutes of play time.

1610-1620 minutes of play time.

1630-1640 minutes of play time.

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1670-1680 minutes of play time.

1690-1700 minutes of play time.

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1750-1760 minutes of play time.

1770-1780 minutes of play time.

1790-1800 minutes of play time.

1810-1820 minutes of play time.

1830-1840 minutes of play time.

1850-1860 minutes of play time.

1870-1880 minutes of play time.

1890-1900 minutes of play time.

1910-1920 minutes of play time.

1930-1940 minutes of play time.

1950-1960 minutes of play time.

1970-1980 minutes of play time.

1990-2000 minutes of play time.

2010-2020 minutes of play time.

2030-2040 minutes of play time.

2050-2060 minutes of play time.

2070-2080 minutes of play time.

2090-2100 minutes of play time.

2110-2120 minutes of play time.

2130-2140 minutes of play time.

2150-2160 minutes of play time.

2170-2180 minutes of play time.

2190-2200 minutes of play time.

2210-2220 minutes of play time.

2230-2240 minutes of play time.

2250-2260 minutes of play time.

2270-2280 minutes of play time.

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2870-2880 minutes of play time.

2890-2900 minutes of play time.

2910-2920 minutes of play time.

2930-2940 minutes of play time.

2950-2960 minutes of play time.

2970-2980 minutes of play time.

2990-3000 minutes of play time.

3010-3020 minutes of play time.

3030-3040 minutes of play time.

3050-3060 minutes of play time.

3070-3080 minutes of play time.

3090-3100 minutes of play time.

3110-3120 minutes of play time.

3130-3140 minutes of play time.

3150-3160 minutes of play time.

3170-3180 minutes of play time.

3190-3200 minutes of play time.

3210-3220 minutes of play time.

3230-3240 minutes of play time.

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4010-4020 minutes of play time.

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4090-4100 minutes of play time.

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4550-4560 minutes of play time.

4570-4580 minutes of play time.

4590-4600 minutes of play time.

4610-4620 minutes of play time.

4630-4640 minutes of play time.

4650-4660 minutes of play time.

ATARI PROGRAM



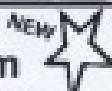
1. **STATEMENT OF THE PROBLEMS**
2. **THEORETICAL CONSIDERATIONS**
3. **EXPERIMENTAL STUDIES**
4. **DISCUSSION AND CONCLUSION**



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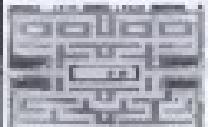


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Into the arena for the power... or the glory

Fight for your life against the ZX81 in an amphitheatre with a difference. David Ryan's game needs a 16K memory expansion



You are sent as a gladiator fight for your life in a modern-day Roman amphitheatre.

In my ancient-day version you face not human opponents, but a multi-patted ZX81 which only withdraws in life to let fly a few on an electrified path of ground.

Your only fight is to dodge these paths of death for as long as possible. Terrible routes are another hazard at higher skill levels.

When known, maybe the computer will eventually tire of the sport and release you. But then again...

How it works

1-10	set up variables, start game
40-200	main game loop

40	points man on screen
70-800	points patches of electrified ground

pause — very short at higher skill levels

repeat-drawn movement

electro for paths of electrified ground and where man is about to move. If no pause is passed for less than 200, the back rotation of routes with man in new position

790	adds one to score each time man is moved
795	changes man has not moved onto an invisible route

end routine, prints score and asks if another game is wanted.

1000-1020	handles areas of staff levels. Note: CHRS (L+180) prints level chosen in reverse characters
-----------	---

1020-1030	prints arena. Notes: areas are made up of CHRS 8 to stop man moving off edge of screen
-----------	--

1030-1030	sets of instructions are passed
-----------	---------------------------------

2000-2020	print interactions with passes for time to read them
-----------	--

2020-2030	choose position for invisible areas
4000-4010	sets next wheelchair route

Variables

8 score areas, set to zero at start. Letters chosen level

J K variables which hold position of invisible areas
A, B hold position of your man
C, D use to hold level and therefore a means of discriminated ground along with six positions on screen

Hints on conversion

Lines 170 and 180 are used to set the new position for your man. The two addresses hold the address of the new position. This is in form P#H#L. If it contains a CHRS 8 then control is passed to line 200. That could probably be implemented as the Spectrum using SCREEN 3.

The ZX81 does not have a standard character set. In converting to other machines the figures after the CHRS commands will need to be changed.

ЭКСПЛУАТАЦИЯ

2000 POINT **IS** S-LEFT, S-DOWN, T-UP
2000 POINT **IS**
2000 POINT **IS**

2000 POINT **IS** IF YOU HIT A **T** THAT
CAGE IS OVER ONE YOUR SCORE
IT WILL BE PRINTED ON THE SCORE
SCREEN WHERE YOU LOSE YOUR LIFE
AT THE HIGHEST WILL LEVEL
INVISIBBLE HONES...

2077 POINT **IS**

```
00000000 POINT TO SUBROUTINE INSTRUCTION  
00000000 SUBROUTINE  
00000000    PARM DT TO JDF  
00000000    RETURN  
00000000    LET JDF=DT JDF=DT+1  
00000000    LET JDF=DT JDF=DT+1  
00000000    MOVE DT DT  
00000000    END
```

— 1 —

1 Test and Test Run

J. Appl. Econ. 2002, 15(4), 391–416

LIMITS AND BIAS IN UNIQUE SPECIES

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the Space Zombies

the most
Soviet and our best
dear friends
for example, because

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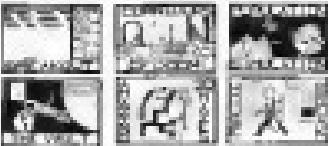
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We only have room here to list the top 10 best restaurants, please stop by because there are so many more to choose from.

INTERVIEWER: — You have stated a desire at this time to return to a row of Money and Law, "East and "West" series you purchased. It is in very good condition and may still bring you the pleasure. After a period of time an album will need re-binding after the binding will be torn off. As regards the "East and West" series, I would like to advise you that the book is in excellent condition. You have it as it was first issued and contained in original packing. Books in the "East and West" series are the same size and may be bound in one volume. The paper is plain or with some faint and thin embossed patterns, it is different in texture, printed in the same or a similar way.

The full extent of D progression is not known for this cohort.

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A set of small, light-gray navigation icons typically found in LaTeX Beamer presentations, including symbols for back, forward, search, and table of contents.

Plasma

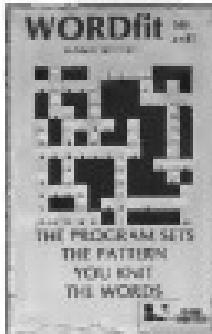
SOFTWARE REVIEWS

New ideas for your micro

A selection of games which you won't find in your local arcade, tested for you by our panel of reviewers



Attack Of The Mutant Camels



WORDfit
THE PROGRAM SETS
THE PATTERN
YOU KNAW
THE WORDS

Attack of the Mutant Camels Commodore 64 plus joystick £8.50

Reviewed by Michael Pleasant, Today, Herts SG26 6EP

"Death has been avoided by 90% high, laser spotting, lightning, shielded death couch." This is the awesome story you must beat with this fast-moving, colourful game in which you pilot a small jet and attempt to wear down

the camels' shields and "blow them".

On loading, there appears an impressive animated introduction offering various and exotic including a camel-like alien. Pressing the fire button transports you to a desert landscape in a story landscape, where impervious camels charge slowly towards you rather like the Lawrence in The Empire Strike Back.

You have to hit the camels with a repeating missile gun while dodging the scuttling bombs. Does this sound as you were more fun at a concert? As well many various shooting colours before picking and choosing.

Should you succeed in destroying a wave of the beast,

you also enter Trans-mutant Hyperloop, and you must dodge whilst avoiding rocks in the landscape besides just an incredible speed. If however the camels reach your end of the screen, you lose the game.

Quite simply a very good game. Sound and graphics are excellent, documentation and instructions are clear, and the action is fast and furious. To play it is to appreciate it. The only criticism could be that it is perhaps a little too difficult.

D.A.

instructions	75%
playability	80%
graphics	90%
value for money	80%



WordFit ZX81 £5

Reviewed by Mike Winter, 3 Vassall House, 2 Cedar Gardens, Sevenoaks TN12 5BB

I found this program a bit of a mystery — is it a game, or is it a utility? The manufacturer sees it as a game, but it could I suppose be used as an aid to crossword compilation too.

All it really does is generate a random crossword-style pattern, which you must then fill with any words you choose

but you cannot use the same word twice, and only letters will be accepted.

You can choose between four different sizes of grid, the larger ones obviously presenting more of a challenge, and to make things more difficult and the program will if required fill in random words too.

Once the grid is full, though, the program does not stop. The cursor goes moving on, and you can enter the words you have already entered to definitely avoid you having enough.

On screen you are shown how many words of a given length we will need to fill the grid, and how many you have

already entered. But there is no score, so you might expect from a Scrabble-type game, that this is to be marketed as a game, that is score highly might be a good idea.

On the whole, I don't think WordFit makes the most of the ZX81's capabilities. It might depend if you are a great crossword fan, or even if you compile your own crosswords, but most of what it does could be done just as well with a good old low-technology pencil and paper.

G.R.H.

instructions	60%
playability	40%
graphics	20%
value for money	30%



The Exterminator Colour Game £7.95

Reviewed by Alan Gray, Algray House, 21 Bradbury Street, Balsall, N. Warks B76 6WD

Oh dear, what is this? Based on a fairly weak idea, Exterminator is one of those 'tag-a-tag' games, apparently written by someone with little imagination in about 10 minutes.

The game is split into two phases. In the first phase your spaceship whizzes about the

spaces at breakneck speed, as you carefully try to zap little glowing aliens. Then add to a fairly impossible task as the aliens have placed missiles on their ship which fly at you leaving you little chance to get out of the way.

The second phase, however, is a slight improvement. You must get into a safe area at the top of the screen where the alien eggs can be destroyed. Your ship must fly and set the safe area, dodging the mines and guardians, and return to the safe area to destroy the eggs.

The controls are very difficult to master and the ship really goes too fast to be controlled very easily. In fact, as far as the space bar must be pressed

regularly with the appropriate direction key, which is very difficult indeed. This makes the game extremely tiring, and it will soon lose its appeal, if you feel it ever had any.

Really a lot of a disappointment when compared with some of Algray's other offerings. The game is vastly overpriced and is the sort of game that one might like to tap in basic listing to a magazine on a wet winter's night.

J.D.

instructions	30%
playability	10%
graphics	40%
value for money	40%



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Make your Spectrum programs sound better

A touch of machine code can add realistic sound. Ian Beynon shows you how

Many people have been quick to point out the limitations of the Spectrum's sound abilities, yet with a basic knowledge of machine code realistic sound effects can be produced to enhance even the dullest programs.

Start by entering Program 1, taking particular care when entering the local data.

When you run the program you will first of all hear a series of ascending notes which was created using the BASIC BEEP command. Now press the left and the computer will execute the machine code version.

The difference in quality is plain to hear and, if you wish, you can add the following extra line:

20 POKE 308448 (Enter and Run)

This line effectively speeds the machine code up a further 10 times.

The pros and cons of such a machine code routine are now however, as complete as you might imagine. In fact, to generate a BEEP in machine code only three instructions are required, plus a JLT instruction to ensure a safe return to BASIC. Then we

- Load the HL register pair with a value relating to the duration.

2 Load the HL register pair with a value relating to the pitch.

3 Call the machine routine at address 769 in the ROM to perform the BEEP.

For those who have never before programmed in machine code, a routine can be thought of like a BASIC subroutine, although it can only hold memory at the range 0 to 255.

Unfortunately, such a range is restricted to the designers of the Z80A CPU made your Spectrum provided is with the facility to combine two registers to form what is commonly known as a register pair.

This is analogous to combining two bytes in the range 0 to 255 to represent a number between 0 and 65536. Such a facility enables us to assign register pairs with values in the range 0 to 65535.

Program 2 will generate a single BEEP. Try various 1 and 2 and change the values of HL and DE by changing the appropriate elements of data with reference to the assembly provided.

You should find after a little of experimenting that increasing the value of HL increases the pitch of the note.

In fact, all sounds generated on the Spectrum are nothing more than a series of clicks with varying



Program 2

```
10 CLEAR 29999
20 FOR N=1000 TO 30000: READ
30 READ A: POKE N,A
40 NEXT N
Line PRINT AT 0,0;"BASIC"
110 FOR N=10 TO 40: BEEP .01,N
NEXT N: IF INKEY="" THEN GO TO 100
100 PRINT AT 0,0;"M/CODE"
110 RANDOMIZE USR 2100: IF INKEY="" THEN GO TO 100
1000 POKE 100
1000 DATA 0,200,197,17,10,0,200,0,
0,72,6,0,9,245,181,2,197,16,279,
200
```

Remarks

200000	LD HL,1280	22,0,5
200001	LD DE,256	17,0,1
200006	CALL 749	205,181,2
200009	RET	201

length passes in between. The shorter the pause the higher the note will sound. It is possible to break the pause to such a level that each individual click becomes audible.

In other words, you are technically forcing DE with the number of clicks to be sent to the speaker and HL with the pause between each click.

Program 3 consists of two routines which are called using the commands RANDOMIZE USR 2100 and RANDOMIZE USR 2100. Line 1 is used to store the

machine code and lines consist of at least 27 characters.

I suggest you copy the programs, run 2 and then delete all the lines except line 1. You could then copy the remaining line and MESSAGE it into your own program. A disadvantage of the two routines is provided for those of you who wish to try altering some of the values to produce different sounds.

Finally, I have included a mystery program for you to copy and run which should "ring a bell" with you.

Program 1

```
10 CLEAR 29999
20 FOR N=1000 TO 30000: READ
30 READ A: POKE N,A
40 NEXT N
Line PRINT AT 0,0;"BASIC"
110 FOR N=10 TO 40: BEEP .01,N
NEXT N: IF INKEY="" THEN GO TO 100
100 PRINT AT 0,0;"M/CODE"
110 RANDOMIZE USR 2100: IF INKEY="" THEN GO TO 100
1000 POKE 100
1000 DATA 0,200,197,17,10,0,200,0,
0,72,6,0,9,245,181,2,197,16,279,
200
```

SPECTRUM PROGRAMMING

Program 3

```

1 REM (25 CHARACTERS LONG)
10 FOR N=23780 TO 23812: READ
A: POKE N,A: NEXT N
100 DATA 33,20,0,6,40,197,229,1
7,4,0,72,6,0,9,215,181,3,225,35,
25,35,35,35,23,193,16,234,201
110 DATA 6,40,197,22,0,60,35,23
2,7,205,181,3,225,0,89,35,7,20
5,181,3,193,16,234,201

```

Variables

23760	LD HL,B0	33,20,0
23762	LD E,40	6,40
23765	PUSH BC	197
23766	PUSH HL	229
23767	LD DE,4	17,4,0
23770	LD C,D	72
23771	LD B,E	6,0
23773	ADD HL,BC	9
23774	CALL 949	205,181,3
23777	POP HL	225
23778	INC HL	35
23779	INC HL	35
23780	INC HL	75
23781	INC HL	35
23782	INC HL	75

23783	INC HL	35
23784	POP BC	193
23785	DJNZ -22	16,234
23787	RET	201
23788	LD B,40	6,40
23789	PUSH BC	197
23791	LD D,0	22,0
23793	LD E,0	00
23794	LD HL,1000	33,232,3
23797	CALL 949	205,181,3
23801	LD D,0	22,0
23802	LD E,0	00
23807	LD HL,B00	33,32,3
23809	CALL 949	205,181,3
23809	POP BC	193
23810	DJNZ -22	16,234
23812	RET	201

Modern program

```

1 REM (25 CHARACTERS LONG)
10 FOR N=23780 TO 23784: READ
A: POKE N,A: NEXT N
100 RANDOMIZE USR 237801: PRUSDE
B: RANDOMIZE USR 237801: PRUSDE 00
1 00 TO 100
1000 DATA 6,20,197,33,200,0,17,2
0,0,205,181,3,35,200,0,17,40,0,2
0,181,3,193,16,234,201

```

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SOFTWARE REVIEWS

Spaced-out games for your micro

Frenzy Spectrum £4.95

Quicksilva, 13 Palmerston Road, Southampton SO1 3LL.

For years I have been a SF fan, but one book seems to have stood out, the book of the Falcone Empire. I became so impressed with the concepts from the book that I started writing my own space dragon at the time I was reviewing. However I came back to earth, and loaded the program with my efforts.

All the information you need appears on the screen, and the key over-hypnotised numbers that you have the essential numbers at your fingertips.

When you press start, a menu appears on the screen. This represents the controls of a space fleet, populated with five kinds of robots, who, together will defend Earth, and beat up your opponents. A record of the highest score is kept for reference.

The action is very smooth, and once you have got used to the controls the game is a lot of fun. It would be even better with joystick.

BLB

instructions 60%
playability 90%
graphics 90%
value for money 60%



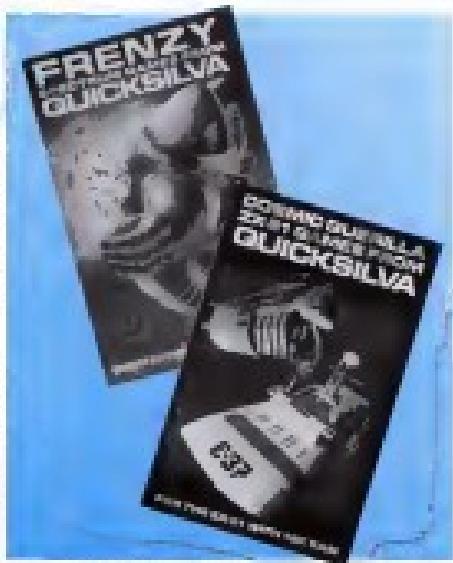
Cosmic Guerrilla 16K ZX81 £3.95

Quicksilva, 13 Palmerston Road, Southampton, SO1 3LL.

Cosmic Guerrilla could be said to be a follow-on of *Space Invaders*, as that you control a moving gun at the bottom of the screen which comes to and fro as you attempt to destroy the aliens.

However, the scenario is quite different; the alien 'guerrillas' think of themselves as the leaders of the screen as men, trying to reach the centre where they need a supply of 'gold' which they then

If you want to be a space adventurer, then these new games may catch your eye. But first, find out what our reviewers thought of them



Space Rescue VIC-20 £6.95

Centlock, Royal London House, 106 Devonport, Manchester M10 3NE.

Space Rescue is an interesting and unusual game which stands out from the standard arcade games arrived at the moment.

You have to negotiate an asteroid field, land on one of several landing pads and rescue the poor astronauts who are trapped on the planet's surface, travel back through the intervals and finally dock with the mother ship.

In its early stages the game looks almost too easy, but the levels change as the asteroids become more tightly packed calling for greater and greater dexterity to pass through them. As well as controlling over the horizontal movement of the ship, you also have a limited supply of ammunition with which you can destroy some of the asteroids.

There seems to be a bug in the program which occasionally lets an asteroid world from right to left through the surface of the planet. While being somewhat disconcerting, this caused no problems in the running of the game. All in all, a good game, but slightly overpriced.

BLB

instructions 75%
playability 80%
graphics 80%
value for money 60%



have to take back the way they came.

Thus you have groups of aliens moving independently in different directions at the same time, their movements is so erratic that so that it can be difficult to judge where any individual will end his next 'way'. A randomly generated alien passes periodically across the top of the screen, if in Space Invaders, you get a higher score for successfully hitting this.

Your job is to shoot the guerrillas before they return home with their stolen goods. If you fire across at certain journeys, no 'gold' will be abandoned there until another alien comes to fetch it, so close that blocks block the energy

values from other alien the game becomes even difficult as most of them are set going around.

The aliens can also destroy you with their own beams (you have three 'lives'). You have shields against these, but as the beams do not come often and the shields need to get on, your own way, I found that it was a good idea to hold them out of existence at the beginning of each game.

You have a choice of three speeds, and scores are displayed on screen. High scores are sent their names in a 'hall of fame' at the end of the game.

Having played other games of the same type, I did not find that it held my interest for long, but the smoky way that the aliens

move and their tendency to attack in batches is a novelty.

The game is well produced, looks ready and runs smoothly. I found that the controls respond almost too quickly — you need a very light touch to position your gun — when you want a destruction are minimal, but the only controls necessary are Right, Left and Fire. The program can be used with the QL Sound and Characters board, if available.

CLB-B

instructions 60%
playability 55%
graphics 70%
value for money 60%



SOFTWARE REVIEWS

Cosmic Raiders Spectrum £5.95

Micro-Com, 24 Ager Crescent, Bexhill-on-Sea.

A top quality professional product is what I've come to expect from Micro-Com, and Cosmic Raiders did not disappoint me.

You have to navigate your spacecraft over an alien terrain of sky scrapers and mountains while defending yourself against the deadly attacks of enemy Grizzlies, Elephants and Interceptors.

Your aim is to release deducted humans and destroy the "aliens". Mastering Defences of the laser ray automatically moves you to a higher level.

The screen display is split, with an inset at screen top showing a perspective view of your and the alien position while the central main screen display shows a smaller view of the battlefield.

Controls are "F" and "Z" keys for up and down, "B" for thrusters and "W" for rocket fire. The left hand button now turns reverse your direction and the right hand button now lets you operate a "Smart Bomb".

Instructions are concise but adequate and leading to straightforward well-rehearsed

High-quality graphics, and the game is fast and great fun to play. Highly recommended.

B.B.

intractions	70%
playability	80%
graphics	90%
value for money	80%



Cosmic Raiders

Micro-Com Software



BLACK STAR ZX81 & MSX FROM QUICKSILVA



Black Star 16K ZX81 £4.95

Quicksilva, Palmerstone Park House, Palmerston Road, Southampton.

Fancy how rarely ambitious graphics and an exciting game seem to get together. All the Quicksilva games I've played after either one or the other — which is also better than neither, but not as good as they could achieve.

This game has graphics which are always interesting and sometimes dazzling (literally), but it's mostly this, the game itself is hideous.

You control a space ship flying down a tunnel which unfolds in 3D before you. The object is to bomb "energy dots" (tiny bands running round the circumference of the tunnel) to

get the maximum points before you run out of fuel. And that's really all there is to it. Like taking off a log.

Unless something was very much wrong with the tape I got, a lot of useful thinking went into setting the black-on-the-white menu. The "pursuit stars" — so which appear at the bottom of the screen, and which you can dodge by moving from side to side — aren't much of a thrill. You can easily avoid them by speeding up slightly, and as far as I can tell they don't do you any harm even if you just ignore them.

"Eight" intravenous displays — yes, well, the only display you need to worry about now is how far you have many bombs you've got left. The screens are very pretty, but, really just prettiness.

I don't know about the "experience levels" and "progressive difficulty". At no point was I offered the option of selecting a different skill level, so maybe this just means that you can speed the ship up as you get better. You'll probably eventually qualify if you don't.

If I'm still here, I'm doing, responsive controls, nice effects, and a high-accessibility, but all this isn't compensated for lack of excitement. Must say harder

C.J.

intractions	60%
playability	60%
graphics	90%
value for money	60%



Astro Blaster Spectrum £4.95

Quicksilva, 13 Palmerstone Road, Southampton SO11 1LL.

Yet another escape from the book of the Palermo Empire was on the today card. I finally ended up that book.

This time we have an old familiar theme. Remember the old Space Invaders? Well, this is a game of that ilk, but with differences that make all the difference if you see what I mean.

These are the attack

sures, three levels of difficulty, racing drivers plus other test pieces... or do it more point-blank?

You can play this game with a joystick if you have one, and I would strongly advise that you do.

The score, together with fancy (a sort of score tape) and make competitive playing. For the space-faction indice

B.B.

intractions	100%
playability	90%
graphics	95%
value for money	100%



Martian Raider VIC-20 £9.99

Komai, 26 Church St, Slough SL1 1PT.

This is one of those "To your space ship over the surface of a planet and kill everything you see" games.

In essence, as you fly your space ship from left to right over a constantly changing landscape, you are invited to kill all these forms of enemy.

These are rather missiles launched from the surface. UFOs or monorails.

The surface of the planet is covered with trees, monorails and fuel dumps. Hunting or hunting any of these items earns you points.

You have three ships, each with identical life spans (one life is indicated by a horizontal bar at the top of the screen) and can gain extra time by breaking the fuel dumps. The ships can be controlled by either a joystick or the keyboard.

Overall I felt that the quality of the game was a little sketchy. The animation tended to be jerky and the display of information required.

Each time a bomb hit the surface, a massive crash (preferably a moving character) was removed. While this didn't affect the player at all, it indicated a lack of animation to dead by the surface. In today's entertainment market, such details matter.

The pace of play was fast and life could become rather difficult, especially in the UFO-phase. But I felt that the incentive to win was lacking and the game really amounted to a test of endurance. Not a bad game — but not a great game.

A.M.

intractions	60%
playability	60%
graphics	60%
value for money	60%



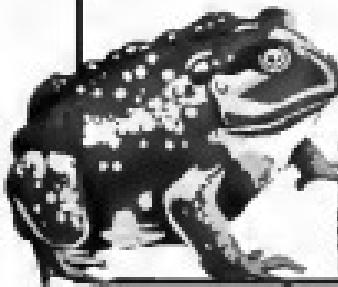
FROGLET

FROGLET

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The program follows the style of those much-loved Frogger and you must negotiate your green salamander friend across a road populated with fast moving cars and lorries and then over the river by means of turtles and logs. Froglet may be able to swim, but if your turtle decides to sink you'll be swept away by the current. Once you've got them out of your hair Frog you'll be able to score bonus points by catching the fish that appear over the river but, take care that you don't run off first!

All in all it's a great, fast moving game that any number of people can play and, just to add to the weird of the whole the program comes on tape or floppy! Hurry up you can increase your performance. How much are we charging for the entire enterprise? Just £19.95 inclusive!



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